



Forest Heights Police Department

Speed Camera System Accuracy

SPEED CAMERA PROGRAM VERIFICATION ANALYSIS

Recently some citizens have raised concerns regarding the accuracy of Forest Heights Speed Camera Program that was instituted on May 1, 2010. The Mayor, Council, and Police Chief take these concerns seriously, as it is critical that citizens have confidence that the Speed Camera Program is operating correctly. Over the last week town officials have reviewed public concerns and instituted an independent verification process. Below is an overview of how well the Town's speed camera equipment operates.

HOW THE EQUIPMENT OPERATES: The speed camera unit used by the Town of Forest Heights, supplied by Optotrafic, utilizes Lidar technology for speed detection coupled with a camera for capturing vehicle information. Lidar is a speed detection technology that utilizes a *laser beam* to determine the distance to the target vehicle by calculating the time it takes for the beam to reflect off of the vehicle and return to the unit. As a vehicle approaches the unit the distance changes, the change in distance and time are the variables used to determine the target vehicle's speed. In the case of Forest Heights' Lidar, the equipment is recalibrated daily to ensure the equipment that makes this distance/time calculation is accurate.

Lidar calculates the speed of an approaching vehicle *beginning at a point 50 feet prior to the unit*, where laser beams strike an approaching target vehicle at two defined locations. When the unit calculates the speed of a violator, and determines the speed is in excess of 12 mph above the posted speed, two different camera photographs are then made of the target vehicle *after it passes* the unit. These photographs are not used to calculate the speed of the vehicle, but are used for two essential purposes.

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The first is to capture the rear registration plate number of the vehicle (since not all States require a front plate) and the second purpose is to prove the vehicle was in motion at the time of the incident. Occasionally it is suggested by the violator that the vehicle is parked or standing. A citation is subsequently issued to the vehicle owner, as required by law, only after it is verified that there is direct visual evidence of the vehicle owner's registration plate displayed on the vehicle.

SYSTEM IS ACCURATE

CALIBRATION: The Optotrafic equipment runs a self- calibration test every morning. An Optotrafic Technician and a Forest Heights Police Officer meet daily at the unit to review the results. Therefore, as standard practice, the equipment is verified every day.

- **OVERALL PROGRAM RESULTS:** Since its inception the speed camera program "Operation Get Home Safe" has issued a total of 72,808 tickets, for an average of 5 days a week during the 12 month period it has been in operation. Based on previous measures, more than 10,000 cars travel north and south bound each day on Hwy 210. This means that less than .03% of cars have received tickets exceeding the posted speed limit of 35 mph by more than 12 mph. Clearly this does not vary the results of a specific ticket, but it does indicate that the equipment is not generating an abnormal number of tickets. Furthermore the average number of tickets per month have dropped from 16,575 per month initially to 4,892 recently, average speed of violators has dropped from 57 mph to 50. The number of accident reports for the intersection of Hwy 210 and Livingston Road has also dropped significantly. Overall this shows that the program is working and drivers are reducing their speed in this particular school zone.
- **TICKET PHOTOS DO NOT SHOW SPEED:** One citizen argued that his own tickets images were evidence that proved the equipment was operating incorrectly. According to his measurements the photos indicated his car had only travelled 24 feet between the first and second photo. He erroneously claimed that the elapsed time between the photos was .461 seconds indicating that the car was travelling at

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approximately 36MPH based on his calculation of velocity as a function of distance over time. Response: The photos generated by the camera and printed on the citation are *never* used to determine the speed of the vehicle. As stated above, the photos are taken after the vehicle passes the device in order to capture the license plate of the vehicle, and to prove the vehicle was actually moving if it is needed in court. The speed of the vehicle is calculated by a "laser" not a photo as the vehicle approaches the unit, 50 feet prior to passing the unit.

- The Town's officer in charge of the program has re-reviewed many of the tickets issued and has noted that many of the vehicles have applied their brakes by the time they have entered the picture zone. This is one reason the pictures cannot be used to determine the speed of the vehicles.
- **BRENTWOOD ISSUES:** Some citizens raised the fact that Brentwood had rebated all tickets issued between June 24th and July 13th. Many believed this was due to a problem with the Optotrafic equipment.

RESPONSE: We have checked with the Chief of Police of Brentwood and there was an administrative issue with the handling of tickets by the Brentwood staff. This was not a systemic

INDEPENDENT VERIFICATION: In order to provide a completely independent verification of the Optotrafic unit's calibration, Chief Webb has instituted a verification process where he has had officers drive cruisers through the equipment at set speeds. The speed of the vehicle is verified by both the car's odometer and a hand held radar/laser gun.

This process will be repeated at a regular basis. We have the results of the Chief's first test and it verified that the hand held radar/laser speed gun is in sync with the laser being utilized by the photo enforcement program. The Town's hand held radar/laser speed guns are calibrated annually in order to be valid in any court appearance, and were used to show the town's speed cameras are accurate

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